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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,642	12/30/2003	Kazuo Aikawa	9281/4771	6888
757	7590	03/17/2005	EXAMINER	
BRINKS HOFER GILSON & LIONE P.O. BOX 10395 CHICAGO, IL 60610			COHEN, AMY R	
			ART UNIT	PAPER NUMBER
			2859	

DATE MAILED: 03/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/748,642

Applicant(s)

AIKAWA ET AL.

Examiner

Amy R. Cohen

Art Unit

2859

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>07/26/04</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Fukuda et al. (U.S. Patent No. 6,340,801).

Fukuda et al. teaches an encoder comprising: a fixed member (31); a rotary member; (32) and a click mechanism (40, 40A, 39, 39A, 38, 37) for stabilizing the rotary member at each rotation for a predetermined click angle (Col 5, lines 46-64), one of the fixed member and the rotary member being provided with an electrode having A-channel, B-channel and C-channel patterns, the other of the fixed member and the rotary member being provided with contacts which are to be opposed to the electrode so that as the rotary member is rotated (Col 5, lines 5-36), a state between the A-channel and the C-channel and a state between the B-channel and the C-channel switch between a first state and a second state according to contact/non-contact between the respective contacts and the electrode, wherein one of the first state and the second state is a conductive state, and the other of the first state and the second state is a nonconductive state (Col 6, lines 12-57), wherein (a) the state between the A-channel and the C-channel switches between the first state and the second state at each rotation of the rotary member for the click angle, (b) as the rotary member is rotated for the click angle in one direction from a reference phase where the state between the A-channel and the C-channel is in the first state

Art Unit: 2859

while the rotary member is stabilized by the click mechanism, the state between the B-channel and the C-channel remains unchanged from the first or second state, and (c) as the rotary member is rotated for the click angle in an opposite direction from the reference phase, the state between the B-channel and the C-channel switches twice between the first state and the second state (Fig. 6 and Col 6, lines 12-57 and Col 7, lines 22-28).

Fukuda et al. teaches the encoder wherein the state between the B-channel and the C-channel switches such that one of the first state and the second state continues longer than the click angle and the other of the first state and the second state continues shorter than the click angle (Fig. 6).

Fukuda et al. teaches the encoder wherein when the rotary member is stabilized by the click mechanism, at least one of the A-channel pattern and the B-channel pattern of the electrode is electrically disconnected from the contacts (Fig. 6 and Col 6, lines 12-57).

Fukuda et al. teaches the encoder wherein the A-channel pattern, the B-channel pattern and the C-channel pattern (the three patterns) of the electrode are separated from each other, and the contacts include sliders which are electrically connected together and are opposed to the A-channel pattern, the B-channel pattern and the C-channel pattern, respectively, wherein as the rotary member is rotated, the individual sliders are permitted to slide on the three patterns in turn (Col 6, lines 12-57).

Fukuda et al. teaches the encoder wherein the A-channel pattern, the B-channel pattern and the C-channel pattern are spaced apart from each other in a rotating direction of the rotary member (Col 5, lines 5-23).

Art Unit: 2859

Fukuda et al. teaches the encoder wherein a duty ratio of the first/second state between the A-channel and the C-channel is 50% (Col 6, lines 12-57)

Fukuda et al. teaches the encoder wherein count up and count down are carried out in a detection circuit when the state between the A-channel and the C-channel switches between the first state and the second state (Col 6, lines 12-57).

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents disclose rotary encoders Schroter et al. (U. S. Patent No. 6,828,783), Enzinna (U. S. Patent No. 6,732,438), Itomi (U. S. Patent No. 6,688,006), Clairet et al. (U. S. Patent No. 6,577,984), Kamijo (U. S. Patent No. 6,252,223), Jacobsen et al. (U. S. Patent No. 6,170,162), Yamamura (U. S. Patent No. 6,112,583), Al-Rawi (U. S. Patent No. 5,838,222), Vermesse (U. S. Patent No. 5,399,981), Jacobsen et al. (U. S. Patent No. 5,311,666), Betz et al. (U. S. Patent No. 5,200,747), and Kawamura et al. (U. S. Patent No. 4,674,854).

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy R. Cohen whose telephone number is (571) 272-2238. The examiner can normally be reached on 8 am - 5 pm, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego F. Gutierrez can be reached on (571) 272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2859

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ARC
March 16, 2005

A handwritten signature in black ink, appearing to read "Christopher Fulton", written in a cursive style.

Christopher Fulton
Primary Examiner
Tech Center 2800